

Project Development Process Manual Update

Development/Operations Partnering
January 24, 2008

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Conceptual Framework

- Integration of Quality Processes
QPI
- Handshake of compartmental Databases
AIDW
- Participation and ownership of all

Team

- ITD
 - Development
 - OES
 - Operations
 - Valley Transportation
- CCP
- TPD
- TSG

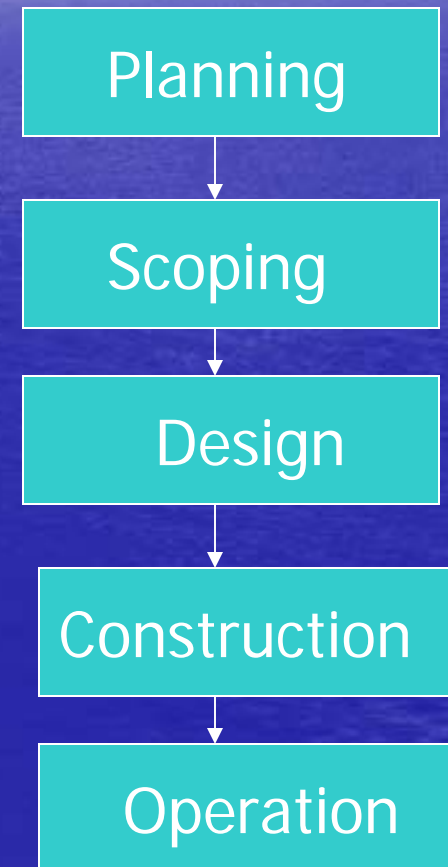
Attributes

- Use of technology
- A living document
- Roadmap of Expert Systems
- Internet or web based communication
- Application of electronic media (webinar, blog, clips, you-tube, electronic town-hall discussion ...)
- Interactive information sharing
- Linking process and ownership
- Conducive to continuous improvement

Integration of Quality Processes

1 of 2

- Planning under NEPA
- Priority Programming
- PRB/PPAC/STB
- Federal Aid
- Context Sensitive Solution
- Consultant Selection
- Certification Acceptance
- Design Build
- Permit



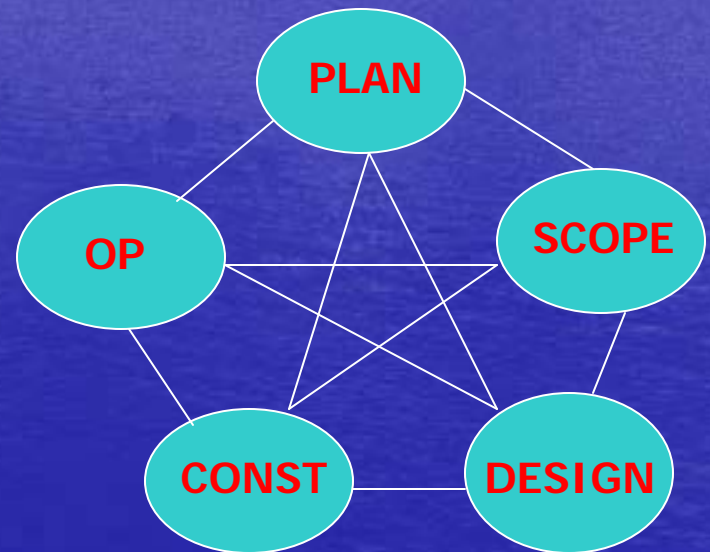
Processes

2 of 2

- Issue Resolution
- Pavement Preservation
- Procurement
- Public Involvement
- Value Analysis
- Risk Management
- Design Exception/Variance
- Post Design
- Emergency Construction
- Adopt A Highway

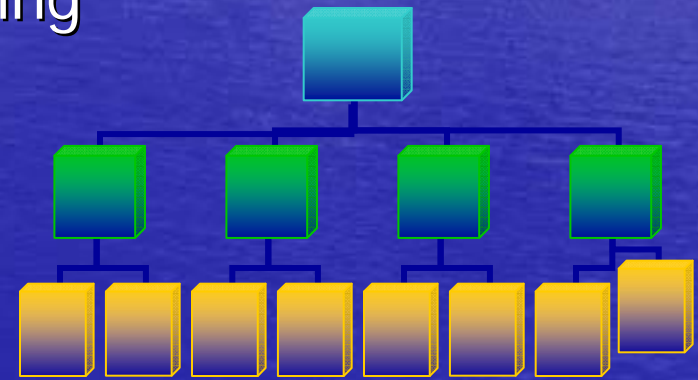
Handshake of compartmental Databases for All Programs

- District Minor
- Passing and Climbing Lanes
- Rest Area
- Port of Entry
- Pavement Preservation
- Private Development
- Statewide Major
- Regional Transportation Plan



Participation and ownership of all

- Foundation of ADOT and our values
- Cross functional information sharing
- Succession planning
- Technology Transfer
- Reward and Recognition
- Transportation history in making



Challenges

- Process Definition
- Technical Support
- Resources Need

Manual Sponsors & Team

Sponsors:

- Sam Elters
- Sam Maroufkhani
- Floyd Roehrich Jr.
- Doug Forstie
- Matt Burdick
- Todd Williams
- Arnold Burnham
- Doanh Bui

Team Support:

- Vince Li - SWPM
- Larry Langer - VPM
- Irene Higgs – Project Manager
- Scott Parkey – IT
- Ginger Murdough - Support

Technical Group Mgrs & Teams

Right of Way

Sabra Mousavi
Paula Gibson
John Eckhardt

Roadway

Mary Viparina
Chris Cooper
Paul O'Brien
Tim Wilson

Engineering Technical

John Carr
Chong-Tai Chyan
Bruce Vana
Seyedkamal Mirtalaei
Leonard Vidra
Vivien Lattibeaudiere
Frank Molina
Hari Khanna
Jason Hafner
Elissa Wise
Art Molina
Doug Casper

ITG

Scott Nodes
Debra Barker

Traffic

Mike Manthey
David Duffy
Reed Henry
Scott Orrahood

Bridge

Jean Nehme
Jennifer Cannon

Statewide

Giuly Caceres
Cheryl Banta
Bahram Dariush
Evelyn Ma
John Dickson

CCP

James Young
John Tucker
Linda Peterson
Ermalinda Gone
Daniel Dudzik
Bill Williams
Bill Pederson
Julian Avila
Tim Tait
Terrsa Welborn
Sally Stewart

Environmental

Todd Williams
Thor Anderson
Bruce Eilerts
Mike Traubert
Dee Bowling
Wendy Terlizzi
Emily Christ

Construction

Julio Alvarado
Rick Vint

TPD

Don Mauller

Maintenance

Lonnie Hendrix
Marwan Aouad
Joe McGuirk

Materials

Jim Delton
Paul Burch
J.J. Liu
John Lawson
Bill Hurguy
Julie Kliewer

Schedule

Planning

July 07 – Oct 07

- ✓ Define Process
- ✓ Establish Team
- ✓ Dev. Temporary website on AIDW
- ✓ Met W/ Group Mgrs

Update

Nov 07 – April 08

- ✓ Met w/ each Technical Group
- ✓ Assign sections
- ✓ Assign due dates (30 days)
- ✓ Rec. first round of edits from all Technical Groups
 - Edits reviewed by Team
 - Circulate to Tech. Groups for review/ comments
 - Refine Process
 - Resolve issues/conflicts

Integration

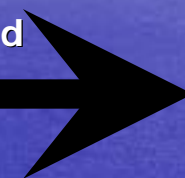
May 08 – Oct 08

- Manual on-line (AIDW)
- Linking Processes

Continuous Improvement

Nov 08 & Beyond

- Community Town Hall – Electronic Media
- Handshake IT Databases



2.1.1 Traffic Engineering Group

The Traffic Engineering Group is responsible for the preparation of design exception crash analyses, construction zone traffic control plans, traffic analyses, traffic signal and illumination plans, signing plans, and pavement marking plans. . From time to time, group personnel will be assigned as project managers for subprograms managed by Traffic Engineering Group Responsibility for management and administration of technical activities rests with the group manager.

- Traffic Design Section

Consists of 4 regional teams responsible for the technical management of designs and preparation of plans, specifications and estimates for signing, pavement marking, maintenance of traffic, lighting, signals, studies and analyses.

- Highway Enhancements for Safety Section (HES)

Highway Enhancements for Safety Section (HES) is the focal point for transportation safety HES organizes, plans and conducts a statewide transportation safety program by coordinating activities and programs with other state agencies, local / tribal governments, non-profit groups, and the private sector. HES makes effective use of federal and state highway safety funds and other resources, provides leadership, innovation and program support in partnership with professionals, organizations and traffic safety activists, to reduce incidence and consequence of traffic crashes on Arizona's road.

Road Safety is too important to be relegated to the last part of a new project (i.e. after completion). In order that limited development funds are utilized in the most cost effective manner, safety must be explicitly detailed throughout the planning, design and construction process. This would reduce the life cycle cost of the project by saving casualties and the accompanying economic losses, in addition to the costs involved in making safety improvements after construction is completed and the road is open to traffic.

There are two ways to accomplish it, namely, *Safety Conscious Design* and through a more formal approach - *Road Safety Assessment (RSA)*. Safety conscious design is a comprehensive, systemwide, multimodal, proactive process that integrates safety into transportation decision making. The RSA process is an important road safety engineering initiative that provides a systematic procedure for checking design and implementation of an existing or future project, against a set of safety and operational principles, with an objective to enhance safety. Since RSA is a formalized examination of safety issues, typically by an independent and qualified team of experts, it may not be possible to make it a mandatory part of all projects in the design process at ADOT, given the resources and time. Some design projects may benefit from an RSA

Highway Enhancements for Safety Section (HES) (cont.)

- RSA and a screening of projects by HES could determine which projects should have an RSA. However, a safety conscious design approach should be inducted as an important feature in the project development process to assess the project crash potential (collision risk) and safety performance. It will enable project managers to identify potential road and safety problems, so they can be remedied prior to placing a transportation facility in service. Consideration of safety implications of design and operational decisions is key to providing safe travel privileges to both motoring public and the walking-biking traffic.

Potential Refinements to Design Process

A more deliberate incorporation of safety in the design process would include the following:

- Quantitatively evaluate the safety effects of specific design components
- Assist in the identification of atypical crash patterns at specific roadway locations
- Provide guidance on the content of the safety evaluation conducted during the preliminary design stage, and
- Provide guidelines for documenting a follow up safety review of a completed project.

The table below provides a matrix to incorporate HES input in the development of the preferred alternative for roadway alignment, cross section, and access control to guide the evolution of a facility over the next 20-50 years.

STAGE	STEPS	PURPOSE	POTENTIAL SAFETY INPUT
Planning and Programming	Needs Assessment	To review the Candidate Assessment Report (CAR) and commit to funds	Use Safety Conscious Planning initiative to incorporate safety at the planning stage.
Scoping Phase	Project Scoping Review	To review concepts and guidelines (4.16)	Screen facilities and examine locations for potential safety improvement (Identification of high hazard locations through network screening from the perspective of "actual crash experience" as well as the "perceived potential for crashes").
Design Development Process	Preliminary Design Conference	Design Kick-off (5.4)	Document safety needs. Identify atypical conditions, complex elements, and high-cost components.
	Value Engineering	To seek optimum value of the project by balancing functional performance and cost (5.5)	Screen the project for Road Safety Assessment (RSA) Review functional needs and compare cost of specific elements with overall roadway with safety and operational benefits.
	Stage I Review	To provide the basis for preparing the initial roadway plan and profile sheets (5.6.1).	Provide early identification of potential problem areas not identified in the Scoping phase. Refine project scope, if necessary.
	Stage II Review	To convey the basic design concept and features of the project in accordance with the Scoping Phase (5.6.2)	Diagnose safety data to identify crash patterns. Perform detailed level of safety analysis for safety implications of the key geometric elements of roadway and roadside.
	Stage III Review	Geometric Schematic Refinement - to incorporate comments and recommendations of Stage II review and field review to completely define all geometric features, roadway appurtenances and /utilities	Review sign, signal, striping and utilities for safety implications; review the proposed construction staging and traffic control plans to insure the work zone safety and safety consequences of the proposed traffic diversions.

QUESTIONS & ANSWERS

